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EXAMINER
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LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
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2181

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/775,080	<b>Applicant(s)</b> SAKIYAMA ET AL.	
	<b>Examiner</b> Chun-Kuan Lee	<b>Art Unit</b> 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/28/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **RESPONSE TO ARGUMENTS**

1. Applicant's arguments filed 04/28/2008 have been fully considered but they are not persuasive. Rejection of claim 1 under 35 U.S.C. 112 second paragraph is withdrawn. Currently, claims 1-17 are pending for examination.

2. In response to applicant's arguments (on page 9, 2<sup>nd</sup> paragraph) regarding the independent claims 1, 8 and 14 rejected under 35 U.S.C. 103(a) that the combination of references does not teach/suggest the claimed features because Utsunomiya does not teach/suggest having a first and second destination memories; applicant's arguments have fully been considered, but are not found to be persuasive.

The examiner respectfully disagrees, as Utsunomiya teaches storing data in different memory devices as data is stored in a first destination memory (Fig. 3, ref. 1043) and a second destination memory (Fig. 3, ref. 1037).

3. In response to applicant's arguments (on pages 9-11) regarding the independent claims 1, 8 and 14 rejected under 35 U.S.C. 103(a) that the combination of references does not teach/suggest the claimed feature that if an expansion memory is detected the first destination memory stores processed job image data and if the expansion memory is not detected the second destination memory stores image data that is not processed; applicant's arguments have fully been considered, but are not found to be persuasive.

The examiner respectfully disagrees, as the examiner relied on the references as following for the teaching of the above claimed feature:

Utsunomiya teaches the first destination memory stores processed job image data (Fig. 3, ref. 1043, 3012, 3013) and the second destination memory stores image data that is not processed (Fig. 3, ref. 1037, 1032, 3007).

Terajima teaches if an expansion memory (Fig. 1, ref. 109) is detected (e.g. detection by sensor 119 of Fig 1) data is stored in the first destination memory (e.g. external memory) and if the expansion memory is not detected data is stored in the second destination memory (Fig. 1, ref. 115) (Fig. 1 and col. 3, l. 11 to col. 4, l. 64).

The resulting combination of references teaches that if an expansion memory is detected the first destination memory stores processed job image data and if the expansion memory is not detected the second destination memory stores image data that is not processed.

4. In response to applicant's arguments (on page 9, last paragraph to page 10, 1<sup>st</sup> paragraph) regarding the independent claims 1, 8 and 14 rejected under 35 U.S.C. 103(a), where applicant appears to be arguing that Kisaki is non-analogous art; applicant's arguments have fully been considered, but are not found to be persuasive.

Please note that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis

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for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, Kisaki is analogous art because Kisaki in the field of applicant's endeavor as Kisaki invention is related to a copier, printer, scanner and a facsimile machine ([0002]).

5. In responding to applicant's arguments (on page 11, last paragraph to page 12, 1<sup>st</sup> paragraph) regarding the independent claims 1, 8 and 14 rejected under 35 U.S.C. 103(a) that combination of references would not have been obvious because "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the art;" and "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness;" applicant's arguments have fully been considered, but are not found to be persuasive.

The examiner respectfully disagrees, because of the following:

Utsunomiya teaches a printing apparatus have a primary memory device (semiconductor memory such as RAM) and a secondary memory device (hard drive), wherein data stored in the memory devices is printed.

Utsunomiya does not teach storing and printing of a first copy in the primary memory device, and storing and printing of a second and following copies in the secondary memory device.

Kisaki teaches a printing apparatus comprising a first copy being stored in and outputted from a semiconductor memory and a second and following copies are stored in and outputted from a hard disk drive.

Since there is a design incentive to utilize the faster semiconductor memory for more efficient data transferring while utilizing the hard disk drive having a larger volume for data storing, it would have been obvious to one ordinary skilled in the art of printing apparatus to incorporate Kisaki's printing method utilizing semiconductor memory and hard disk drive into Utsunomiya's printing apparatus.

Utsunomiya and Kisaki teach that the printing apparatus have an expansion memory that can be mounted, wherein data stored in the expansion memory are printed.

Utsunomiya and Kisaki do not teach detecting whether the expansion memory is mounted or not, and selecting a corresponding memory location for data printing base on said detecting.

Terajima teaches a printing apparatus comprising detecting whether an expansion memory is properly mounted or not, and selecting a corresponding memory location for data printing base on said detection.

Since there is a design incentive to increase the data transferring integrity by ensuring the proper connection of the expansion memory before data transferring, it would have been obvious to one ordinary skilled in the art of printing apparatus to

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incorporate Terajima's detection and selection for data printing into Utsunomiya and Kisaki's printing apparatus.

## **I. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT**

6. As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information Disclosure Statement dated April 28, 2008 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

## **II. REJECTIONS BASED ON PRIOR ART**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utsunomiya (US Patent 6,999,186) in view of Kisaki (US Pub.: 2003/0035142), and further in view of Terajima (US Patent 5,309,251).

8. As per claim 1, Utsunomiya teaches a data outputting printer, comprising:

a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that processes (i.e. processes by converting input job image data to raster images) input job image data for a job (col. 5, ll. 40-67);

an output unit (printer 1030 of Fig. 3) that, after processing of the input job image data sent to said processing memory, outputs (e.g. prints) said processed input job image data during a first output session (col. 8, ll. 28-40), wherein the first output session is resulted from either the implementing the multiple-copy print or the single-copy print as the first copy is printed on the printer;

a mounting unit for mounting an expansion memory (external memory 1043 of Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that, controls said input job image data is to be output multiple times (e.g. multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input job image data in a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the input job image data is stored in either the internal memory RAM or the external hard disk for printing the first copy, the second copy and beyond, and

wherein the storage destination memory comprises a first storage destination memory (Fig. 3, ref. 3012) storing the processed input job image data



(Fig. 3, ref. 3013) and a second storage destination memory (Fig. 3, ref. 1032) storing the input job image data that is not processed (Fig. 3, ref. 3007).

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories for storing the image data of the second output session and beyond based on the detection of said detection unit ... reads out said image data from the selected storage destination memory and executes printing for the second copy onward via said output unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile machine, a printer, and a scanner ([0002]) comprising a data input/output control unit (Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second and following copies are stored in and output from the secondary memory device (hard disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kizaki's printing of the first copy from the primary memory device and the second and following copy from the secondary memory device into Utsunomiya's printer for the benefit of providing efficient transfer of image data concerning the primary memory device while using the second memory device having a

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larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in claim 1. The resulting combination of the references further teaches the data outputting printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the second storage destination memory) as the input job image data is stored in the primary memory device and is outputted via the output unit; and

prints out the second and following copies from the secondary memory device (e.g. first storage destination memory) as the input job image data is to be stored in the secondary memory device for the second and following copies and is outputted via the output unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not an external memory (Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14); and

a controller (Fig. 1, ref. 101) that selects the storing of the received communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the external memory is detected to be present, the received communication data is to be stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

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communication data from either the internal RAM processing memory or the external memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim 1. The resulting combination of the references further teaches data outputting printer, comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device or the secondary memory device for the second output session and beyond based on the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the first copy from the primary memory device (e.g. second storage destination memory) as the image data is stored in the primary memory device, and stores the image data in the primary memory device into the secondary memory device (e.g. first storage destination memory) for implementing the print out of the second and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the input job image into the primary memory (e.g. second storage destination memory) and prints out the second and following copies utilizing the image data stored in the primary memory (e.g. second storage destination memory); and therefore, printing (e.g. reads out) the input job image data from the selected storage destination memory and executes printing for the second copy onward via the printer unit.

9. As per claim 2, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 1 as discussed above, where Terajima further teaches the data outputting printer comprising wherein when said detection unit detects that the expansion memory is mounted, said controller stores the processed input job image data used for said second output session onward in said expansion memory (i.e. external memory), and when said detection unit detects that the expansion memory is not mounted, said controller stores the input job image data used for said second output session onward in said processing memory (i.e. internal RAM) (Terajima, Fig. 3 and col. 3, l. 11 to col. 4, l. 14), wherein the input job image data is stored into the external memory only if the sensor detects the presence of the external memory, if the external memory is not present, the input job image data is stored in the internal RAM.

10. As per claim 3, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 2 as discussed above, where Utsunomiya and Terajima further teach the data

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outputting printer comprising wherein if it is detected by said detection unit that the expansion memory is mounted, said controller outputs the input job image data processed in said processing memory as is for the first output session (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l. 11 to col. 4, l. 14), wherein the communication result is first stored in the RAM (processing memory) then later transferred to the external memory and prior to printing, if the external memory is removed, the data is printed from the RAM.

11. As per claim 4, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 1 as discussed above, where Terajima further teaches the data outputting printer comprising wherein said controller determines the storage format for the input job image data used for the second output session onward in accordance with the results of the detection by said detection unit (Terajima, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

12. As per claim 5, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 4 as discussed above, where Terajima further teaches the data outputting printer comprising wherein the job is a print job sent from an external device, and when the mounting of an expansion memory is detected by said detection unit, said controller stores the processed input job image data in said expansion memory as image data

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resulting from processing in said processing memory, and when the mounting of an expansion memory is not detected by the detection unit, said controller stores the input job image data in said processing memory in an original format existing prior to its processing in said processing memory (Terajima, Fig. 6; col. 3, l. 11 to col. 4, l. 14 and col. 5, ll. 29-50), wherein if the external memory is detected, the data is stored in the external memory after being properly processed by being formatted for serial communication and if the external memory is not detected, data is stored in the RAM without implementing the serial formatting.

13. As per claim 6, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 1 as discussed above, where Utsunomiya further teaches the data outputting printer comprising at least one compression/decompression unit (i.e. compression/expand unit) that compresses data and decompresses compressed data (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32).

14. As per claim 7, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 6 as discussed above, where Utsunomiya further teaches the data outputting printer comprising wherein said expansion memory stores data compressed by said at least one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32), wherein data are compressed before being stored.

15. As per claim 8, Utsunomiya teaches a data outputting printer, comprising:

a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs of input image data;

a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that processes (i.e. processes by converting input image data to raster images) the input image data of print jobs received by said receiving unit (Fig. 3 and col. 5, ll. 40-67);

a printer unit (printer 1030 of Fig. 3) that prints the input image data after it has been processed in said processing memory (col. 8, ll. 28-40);

a mounting unit used for mounting an expansion memory (external memory 1043 of Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that control the print job includes multiple copies of identical images to be printed (e.g. multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input image data in a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the input image data is stored in either the internal memory RAM or the external hard disk for printing the first copy, the second copy and beyond,

wherein the storage destination memory comprises a first storage destination memory (Fig. 3, ref. 1032) storing the input image data that is not processed (Fig. 3, ref. 3007) and a second storage destination memory (Fig. 3, ref. 3012) storing the processed input image data (Fig. 3, ref. 3013); and

reads out said image data from the storage destination memory and performs output for the second output session onward using the printer unit (col. 5, l. 40 to col. 6, l. 44), as the stored image data is read out from the corresponding storage destination memory and printed by the printer.

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories for storing the image data of the second output session and beyond based on the detection of said detection unit ... reads out said image data from the selected storage destination memory and executes printing for the second copy onward via said output (printer) unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile machine, a printer, and a scanner ([0002]) comprising a data input/output control unit (Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second and following copies are stored in and output from the secondary memory device (hard disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kizaki's printing of the first copy from the primary memory device and the second and following copy from the secondary memory device



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into Utsunomiya's printer for the benefit of providing efficient transfer of image data concerning the primary memory device while using the second memory device having a larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in claims 1 and 8. The resulting combination of the references further teaches the data outputting printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the first storage destination memory) as the input image data is stored in the primary memory device and is outputted via the printer unit; and

prints out the second and following copies from the secondary memory device (e.g. secondary storage destination memory) as the image data is to be stored in the secondary memory device for the second and following copies and is outputted via the printer unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not an external memory (Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14); and

a controller (Fig. 1, ref. 101) that selects the storing of the received communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the external memory is detected to be present, the received communication data is to be

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stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received communication data from either the internal RAM processing memory or the external memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claims 1 and 8. The resulting combination of the references further teaches data outputting printer, comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device or the secondary memory device for the second output session and beyond based on the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the first copy from the primary memory device (e.g. first storage destination memory) as the image data is stored in the primary memory device, and stores the image data in the primary memory device into the secondary memory device (e.g. second storage destination memory) for implementing the print out of the second and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the input image into the primary memory (e.g. first storage destination memory) and prints out the second and following copies utilizing the image data stored in the primary memory (e.g. first storage destination memory); and

therefore, printing (e.g. reads out) the image data from the selected storage destination memory and executes printing for the second copy onward via the printer unit.

16. As per claim 9, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 8 as discussed above, where Utsunomiya and Terajima further teach the data outputting printer comprising wherein when said detection unit detects that the expansion memory is mounted, said controller stores the processed input image data used for printing of a second copy onward in said expansion memory, and when said detection unit detects that an expansion memory is not mounted, said controller stores the input image data that is not processed and used for printing of the second copy onward in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, Fig. 3 and col. 3, l. 11 to col. 4, l. 14).

17. As per claim 10, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 9 as discussed above, where Utsunomiya and Terajima further teach the data outputting printer comprising wherein if it is detected by said detection unit that the expansion memory is mounted, said controller prints out the first copy using the image

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data processed in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l. 11 to col. 4, l. 14).

18. As per claim 11, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 8 as discussed above, where Terajima further teaches the data outputting printer comprising wherein said controller determines a storage format for image data used for the second copy onward in accordance with the results of the detection by said detection unit (Terajima, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

19. Claims 12-13 repeat the limitations of claims 6-7 and are therefore rejected accordingly.

20. As per claims 14, Utsunomiya teaches a printer, comprising:  
a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs;  
a work memory (RAM 1037 of Fig. 3) that includes a storage area (Fig. 3, ref. 1032, 3007) used for storing input image data, as well as a processing area (Fig. 3, ref. 3008, 3009) used for processing (process by converting) image data to raster images for received print jobs (Fig. 3 and col. 5, ll. 40-67);

a printer unit (printer 1030 of Fig. 3) that prints image data after it has been processed in said processing area during (col. 5, l. 40 to col. 6, l. 44);

a mounting unit used for mounting an expansion memory (external memory 1043 of Fig. 2 ) used for data storage (HD 1043 of Fig. 3), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16);

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that, where the print job is a job in which multiple copies of identical images are to be printed (e.g. multiple-copy print) (col. 5, ll. 17-32; col. 6, ll. 20-44 and col. 8, ll. 28-40), printing out a first copy, a second copy and onward of the processed image data in said work memory or from an expansion memory; and

a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) comprises the expansion memory (Fig. 3, ref. 3012) storing the processed image data (Fig. 3, ref. 3013) and the work memory (Fig. 3, ref. 1032) storing the input image data that is not processed (Fig. 3, ref. 3007);

Utsunomiya does not teach the printer, comprising:

a detection unit that detects whether the expansion memory has been mounted to said mounting unit; and the controller that, (i) and when said detection unit detects that the expansion memory is mounted, ... and (ii) when said detection unit detects that the expansion memory is not mounted ... .

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

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(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second and following copies are stored in and output from the secondary memory device (hard disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kizaki's printing of the first copy from the primary memory device and the second and following copy from the secondary memory device into Utsunomiya's printer for the benefit of providing efficient transfer of image data concerning the primary memory device while using the second memory device having a larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in claim 14. The resulting combination of the references further teaches the printer comprising the controller that

prints out the first copy from the primary memory device (i.e. semiconductor memory such as the work memory) as the processed image data is stored in the primary memory device; and

prints out the second and following copies from the secondary memory device (i.e. external memory such as the HDD) as the processed image data is to be stored in the secondary memory device for the second and following copies.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not an external memory (Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14); and

a controller (Fig. 1, ref. 101) that selects the storing of the received communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the external memory is detected to be present, the received communication data is to be stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received communication data from either the internal RAM processing memory or the external memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim 14. The resulting combination of the references further teaches the printer comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit;

the controller that,

when the sensor detects that the external memory is mounted, prints out the first copy from the primary memory device (i.e. semiconductor memory such

as the work memory and the internal RAM) as the image data is stored in the primary memory device, and

stores the image data in the primary memory device into the secondary memory device for implement the print out of the second and following copies from the secondary memory device (i.e. external memory such as the external HDD); and

when the sensor detects that the external memory is not mounted, prints out the second and following copies utilizing the image data stored in the primary memory.

21. As per claim 15, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 14 as discussed above, where Utsunomiya further teaches the data outputting printer comprising at least one compression/decompression unit that compress image data input from said processing area, decompress compressed image data and output decompressed image data to said processing area (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32), since data are compressed before being stored, said data must also be decompressed before being printed.

22. As per claim 16, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 15 as discussed above, where Utsunomiya further teaches the data outputting printer comprising wherein said expansion memory stores image data compressed by



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said at least one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32), wherein data are compressed before being stored.

23. As per claim 17, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 8 as discussed above, where Utsunomiya further teaches the data outputting printer comprising the processing memory is the first storage destination (Utsunomiya , Fig. 3, ref. 1032, 3007) and the expansion memory is the second storage destination (Utsunomiya , Fig. 3, ref. 3012, 3013).

### **III. CLOSING COMMENTS**

#### **Conclusion**

##### **a. STATUS OF CLAIMS IN THE APPLICATION**

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

##### **a(1) CLAIMS REJECTED IN THE APPLICATION**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

##### **b. DIRECTION OF FUTURE CORRESPONDENCES**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

**IMPORTANT NOTE**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.K.L./

June 30, 2008

Chun-Kuan (Mike) Lee  
Examiner  
Art Unit 2181

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181